

Office of the President

TO THE COMMITTEE ON GROUNDS AND BUILDINGS:

ACTION ITEM

*For Meeting of May 27, 2008*

**CERTIFICATION OF ENVIRONMENTAL IMPACT REPORT AND APPROVAL OF DESIGN, COMPUTATIONAL RESEARCH AND THEORY FACILITY, LAWRENCE BERKELEY NATIONAL LABORATORY AND BERKELEY CAMPUS**

**EXECUTIVE SUMMARY**

Location: Lawrence Berkeley National Laboratory (LBNL) and Berkeley Campus

Project: Computational Research and Theory Facility (CRT)

Action: Certify the Environmental Impact Report (EIR) and approve design.

Previous Actions: **March 2007:** Total capital improvement budget of \$90,444,000 to be funded from external financing (\$85,000,000), gifts (\$5,000,000), and LBNL operating funds (\$444,000).

**May 2008:** Approval of budget augmentation (\$22,500,000).

Executive Architect: Perkins + Will

Project Summary: The proposed project will construct a 73,000 asf (126,300 gsf) high-performance computing and office facility to support the collocation of Berkeley campus faculty and students with the National Energy Research Scientific Computing (NERSC) Center and Lawrence Berkeley National Laboratory Computational Research Division scientific staff. This facility will enable the advancement of scientific knowledge, education, and service through high performance computing by providing a highly productive environment for advanced computational research and theory together with computational resource of nationally recognized leadership. The building cost per gsf is \$652 with an asf to gsf ratio of 58 percent.

- Issues:
- Consideration of EIR certification and design approval was deferred from May 13, 2008 to May 27, 2008 to provide additional time to review and consider additional comments received from the public and local jurisdictions.
  - Public concerns include: visibility of building from downtown Berkeley; further analysis of off-site alternatives (*e.g.*, Richmond Field Station); recirculation (*e.g.*, due to modification of building to reduce height); potential hazards (*e.g.*, earthquake, Alquist Priolo zone); traffic and construction impacts; and consistency with LRDP and Design Guidelines.

### RECOMMENDATION

The President recommends that, upon review and consideration of the environmental consequences of the proposed Computational Research and Theory Facility project as indicated in the attached Environmental Impact Report, the Committee and Grounds and Buildings:

- (1) Certify the **Environmental Impact Report**;
- (2) Adopt the **Mitigation Monitoring Program and attached Findings** and Statement of Overriding Considerations; and,
- (3) Approve the design of the Computational Research and Theory Facility, Lawrence Berkeley National Laboratory and Berkeley Campus.

### BACKGROUND

In March 2007, The Regents approved the 2007-08 State budget for Capital Improvements and Capital Improvement Program to include the Computational Research and Theory Facility, Lawrence Berkeley National Laboratory (LBNL) for a total project cost of \$90,444,000 funded from external financing (\$85,000,000), interim financing to cover un-raised gift funds (\$5,000,000), and LBNL operational funds (\$444,000). At the May 13, 2008 meeting, The Regents approved an augmentation in the amount of \$22,500,000 for a revised total project cost of \$112,944,000, to be funded from external financing (\$107,500,000), gifts (\$5,000,000), and LBNL operating funds (\$444,000).

In September 2007, the appointment of Perkins + Will of San Francisco, California as Executive Architect for this project was administratively approved by the Office of the President.

#### *Project Site*

The proposed project site is a 2.25-acre University-owned parcel adjacent to the Blackberry Gate of LBNL. The site is at the west end of the Laboratory, with frontage on Seaborg Road, flanked on three sides by Buildings 70 and 70A to the east, the Building 50 complex to the north, and the Blackberry Gate to the west. A key benefit of this building site is that it is within walking distance or a short shuttle bus trip to Soda Hall, the location of UC Berkeley's Computer Science Division (see Location Plan and Site Plan).

The proposed CRT Facility project will be constructed by LBNL on Regents' owned land that is managed by LBNL and included in the LBNL 2006 Long Range Development Plan (LRDP). The CRT project site is designated "Research and Academic" in the 2006 LRDP and the project's proposed research and office use would be consistent with this designation. Additionally, the project's proposed square footage and population are consistent with levels approved in the 2006 LRDP.

***Project Design***

The proposed project will provide a new building of approximately 126,300 gsf (73,000 asf). This includes 32,000 asf of high performance computing space and 41,000 asf for offices, a visualization laboratory, and conference space that will accommodate the entire staffs of the LBNL National Energy Research Scientific Computing Center Division and Computational Research Division, and some staff from the joint LBNL/UCB Computational Science and Engineering (CSE) program. The total combined office occupancy will be 300 staff. Of this total, approximately 135 will be existing office staff and 165 will be new employees.

A new electrical feeder will be installed from the Grizzly Peak Substation. All other major utilities are available in the immediate area. The facility will include an initial power capacity of 7.5 MW to serve the initial high performance computing and office loads with an expansion potential to 17MW. A geologic fault investigation was performed in September 2006 in conformance with the Alquist-Priolo Act and no traces of an active fault were identified on the proposed project site.

The building consists of an 80-foot wide by 380-foot long HPC component that will be built into the slope of the hill; and the two-story office component will be constructed directly over the HPC. The building is designed as a three-story steel framed structure over a concrete "podium" at the HPC sub-floor (see Floors Plans and Sections). Lateral load resistance is provided by buckling restraint braced frames for the upper three floors. The HPC sub-floor is laterally restrained by concrete shear walls and soil anchors into the hillside.

Exterior materials are compatible with the surrounding buildings and include metal panels and glass (see Elevations and Renderings). The exterior materials will be composed of board-formed concrete at the building base, flat metal panels of a warm, gray-cream color with accents in a darker gray tone; clear, high-performance glass; perforated metal for screening elements at the roof and service areas; and white, low-emissivity single ply roofing and a white standing seam roof at the clerestory elements. Screening material will be located at the mechanical level to prevent small animals and birds from nesting in the open areas of the mechanical level. The roof of the office component will be punctuated by clerestory windows facing north that will bring high-quality, natural light into the upper level.

The design of the CRT facility has been reviewed in accordance with University Policy and by the Lawrence Berkeley Laboratory Design Review Board. The project held several value engineering meetings and an all-day charrette to review costs and develop value engineering options.

The building would be designed in accordance with the LRDP Design Guidelines and respect the scale, rhythm, and patterns of the surrounding architectural context through massing, exterior finishes, and other architectural elements. Exterior materials would be chosen to be compatible with the surrounding buildings.

This project will comply with the *University of California Policy on Sustainable Practices*. As required by this policy, the project will achieve a minimum standard equivalent to a LEED™ “Certified” rating and the Laboratories for the 21st Century (Labs21) Environmental Performance Criteria (EPC), as appropriate, and is intended to outperform the required provisions of the California Energy Code (Title 24) energy-efficiency standards by at least 20 percent. The design process will also include attention to energy efficiency for systems not addressed by the California Energy Code (Title 24). The project is expected to achieve LEED Silver equivalency with 34 points while targeting LEED Gold equivalency (14 more points possible) and will reduce energy use to at least 20 percent below that of a standard Title 24 compliant lab building through the following design strategies:

- Utilizing Bay Area climate for cooling over 90 percent of the year;
- Reducing energy consumption by 62 percent compared to traditional cooling systems;
- Zero additional storm runoff into EBMUD system by using Best Management Practices; and
- Over 20 percent reduction in domestic water use.

With assistance from the executive design professional’s project team and outside consultants and testing agencies as necessary, the LBNL Facilities Capital Projects department will manage the project. The Berkeley Campus Architect will perform project oversight. The delivery method for the project is Construction Management at Risk with construction site work expected to commence August of 2008 and actual construction to begin in January 2009, with completion anticipated for May 2011. Office furniture will be moved from existing offices or purchased by the program. Additional information on projects costs may be found on Attachment 1.

### ***Environmental Impact Summary***

Pursuant to State law and the University procedures for the implementation of the California Environmental Quality Act (CEQA), an Environmental Impact Report (EIR) was prepared for the proposed construction and operation of the CRT Facility project. Although consistent with LBNL’s 2006 Long Range Development Plan (LRDP) and 2006 LRDP EIR (SCH# 2000102046), the CRT Facility EIR is not tiered from the LRDP EIR and was prepared as a “stand-alone” CEQA analysis.

The EIR described and analyzed site preparation, construction, and operation of the CRT Facility. In addition, the Department of Energy (DOE) parcel lease would be modified, subject to the approval by the President, so that no portion of the CRT project would occupy land leased by The Regents to DOE.

Notice of Preparation was published on July 26, 2007, commencing a thirty-day public scoping period. A public scoping meeting for the EIR was held on August 8, 2007. Additional outreach conducted by LBNL in the summer and fall of 2007 included: scoping advertisements in Oakland Tribune and Daily Californian newspapers; advance alerting of city, county, and state elected officials and neighborhood association representatives; briefings of city of Berkeley

leaders and staff about the CRT project and design; and, an informational “Community Leaders Breakfast” hosted by Lab Director Chu for local business and community leaders, including members of the City Council, City boards, and commissions.

A Draft EIR (SCH# 20078072106) was circulated for public and agency review between November 9, 2007 and January 4, 2008, for a total of 56 days. Notices of Availability were distributed to the public and posted in the Oakland Tribune, Berkeley Voice, and Daily Californian newspapers. Additionally, the Lab mailed nearly 500 hard Notices of Availability to a comprehensive mailing list that included applicable local and regional agencies, community groups, neighbors, and other individuals. CRT Facility Draft EIRs were placed at the Berkeley Public Library reference desk and the Lab's Building 50 Library and were posted online at the Lab's Community Relations website. Hard copy Draft EIRs and/or Compact Disks were sent to the State Clearinghouse, several agencies, active mailing list members, and to any members of the public who requested them.

A Public Hearing was held on December 10, 2007. Announcements of the Public Hearing were placed in the calendar sections of the local newspapers, and media advisories were sent to the local media. On December 12, 2007, Lab staff made a formal presentation of the CRT project to the Berkeley Planning Commission.

During the public review period, comments on the Draft EIR were received from one State agency, two local agencies, six organizations, and approximately nine individuals. Approximately eleven individuals commented at the EIR Public Hearing. Comments included concerns over project siting, aesthetics, air quality, cultural resources, seismicity, hydrology, transportation, and cumulative impacts issues.

The Draft EIR analyzed in detail the following three alternatives to the CRT Facility: a No Project Alternative, a Low Profile Design Alternative, and an Alternate LBNL Location Alternative. The Low Profile Design Alternative was identified as the environmentally superior alternative.

Following comments from the City of Berkeley and the public, LBNL has reduced the volume and visual prominence of the proposed building in an effort to minimize views of the project that were deemed objectionable to the City of Berkeley. This reduced-scale building was carried forward in the Final EIR project description and analysis. The modified design was found to be within the envelope of environmental impacts analyzed in the Draft EIR, and no new or substantially worse significant impacts were introduced as a result of this modification.

### ***Project Impacts***

The Draft EIR determined that the project would have the following significant and unavoidable project-specific and cumulative impacts: noise (construction-related activities would temporarily elevate noise levels at the project site and to nearby surrounding areas) and transportation

(cumulative – due to increase in commuter traffic on nearby intersections from the CRT Facility combined with other development in the area).

The Final EIR includes: the Draft EIR; refinements to the project description; changes and corrections made to the EIR; transcripts from the public hearing; and detailed responses to all comments received on the Draft EIR.

To assure that all measures are implemented in accordance with CEQA, a Mitigation Monitoring and Reporting Program (MMRP) has been prepared and included with the Final EIR. LBNL would be responsible for implementing all CRT Facility Project EIR mitigation measures within jurisdiction of The Regents.

### *Findings*

The **attached Findings** discuss the project's impacts, mitigation measures, and conclusions regarding certification of the EIR for the CRT Facility project in conformance with CEQA. The Findings also set forth overriding considerations for approval of the project in light of its unavoidable significant impacts.

(**Attachments**)

**PROJECT STATISTICS**  
**COMPUTATIONAL RESEARCH AND THEORY FACILITY**  
**CAPITAL IMPROVEMENT BUDGET**  
**LAWRENCE BERKELEY LABORATORY AND BERKELEY CAMPUS**  
**CCCI 5235**

<u>Cost Category</u>	<u>Amount</u>	<u>% of Total</u>
Site Clearance	\$749,000	0.7%
Building	\$82,390,000	72.9%
Exterior Utilities	\$2,421,000	2.1%
Site Development	\$2,756,000	2.4%
A/E Fees <sup>(a)</sup>	\$7,309,000	6.5%
Campus Administration <sup>(b)</sup>	\$3,544,000	3.1%
Surveys, Tests	\$590,000	0.5%
Special Items <sup>(c)</sup>	\$8,769,000	7.8%
Contingency	<u>\$4,416,000</u>	<u>3.9%</u>
Total	<b>\$112,944,000</b>	100.0%
Group 2 & 3 Equipment <sup>(d)</sup>	0	
Total Project	<b>\$112,944,000</b>	

**Statistics**

Gross Square Feet (GSF) <sup>(e)</sup>	126,300
Assignable Square Feet (ASF) <sup>(e)</sup>	73,000
Ratio ASF/GSF (%)	58%
Building Cost/GSF	\$652

**Comparable University Projects at CCC 5235**

Comparable project costs cannot be provided due to the unique nature of this project including severe site constraints.

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- (a) A/E fees include the executive architect's basic services contract fee of \$5,000,000, which represents 7.17 percent of the construction budget identified in the architect's contract.
- (b) Campus administration includes project management and inspection.
- (c) Special items include independent structural reviews; hazardous materials survey/monitoring; acoustic, audio visual, interior, color, roofing, graphics, lighting, multi-media and telecommunications consultants; planning and environmental; agency review; and moving costs totaling \$1,769,000; and interest expense totaling \$7,000,000.
- (d) Research equipment and office furniture will be fully funded through programmatic operating funds, or will be federally funded and not University of California property.
- (e) Gross square feet (GSF) is the total area, including usable area, stairways, and space occupied by the structure itself. Assignable square feet (ASF) is the net usable area.

**May 2008**